
DATA COLLECTION CHECKLIST

Climate Data Checklist

Below is a list of the types of data you may want to collect before writing your Climate Trends Primer. Data availability and scale vary by region. Also, different institutions and modelers use different suites of models to project future climate trends, which can add complexity to this part of the process.

When working with a climate scientist at a university or government agency, be sure to obtain data from a suite of Global Climate Models (GCMs) that are most appropriate to your region. It is important to understand the variation among the different models, because there is a large range of potential future conditions. Report not just the average and percent change, but the full range among the different models. This can be done in one of two ways: (1) through “book-ending” (showing the hottest, least hot, wettest, and driest model output, as well as the average), or (2) by presenting the averages and 10% and 90% percentiles. The latter is more common, but the former is easier for non-scientists to understand, and both methods are scientifically sound.

**Define the geographic scope of your project first, to help guide data acquisition. Your geographic scope for the Climate Science Primer can be larger in extent than your planning area, thereby allowing it to become a regional resource that is useful for other communities and organizations.*

Variable (vital ones in bold with *)	Historic (baseline)	Mid-Century	Late Century
Temperature* (annual mean*, maximum, and minimum, seasonal and/or monthly, warmest/coldest month temperature compared to baseline values*)			
Precipitation* (annual mean*, seasonal and/or monthly, totals and percent change from baseline*)			
Humidity (relative, annual and summer heat-moisture indices)			
Sea level* (coastal areas*) (including average, storm surge height, areas of coastal inundation, erosion)			
Hydrology (percent change in snowpack, streamflow, runoff, and drought stress)			
Vegetation and wildfire (projected change in biomass consumed and area burned by wildfire, as well as carbon storage)			
Growing conditions (day of the year frost begins and ends, and length of frost-free period)			
Frequency and severity of extreme events (number of days above and/or below local temperature and precipitation thresholds (e.g. 100° or 110° F; 0.05 or 2 inches of precipitation), number of consecutive days above and/or below thresholds, to assess severe heat, heat waves, drought, floods, and freeze events)			

Below are some sources for climate data and trends. There are many additional regional sources that are not listed here.

- ▶ **National Climate Assessment** – provides climate trends and impacts information for the nation as a whole, and for specific regions. <https://nca2014.globalchange.gov/>
- ▶ **U.S. Climate Science Centers** – resources vary among each of the eight regions, but many provide climate data and tools, for download or available on request. <https://www.doi.gov/csc/centers>
- ▶ **CalAdapt** – provides data and mapping for communities throughout California, with information on temperature, precipitation, vegetation, snowpack, and a variety of other variables. <http://cal-adapt.org>
- ▶ **Scenarios Network for Alaska and Arctic Planning (SNAP)** – provides data, tools, and support for communities throughout Alaska. <https://www.snap.uaf.edu>
- ▶ **Sea Level Rise Viewer** – provides information and visual data on coastal flooding, erosion, infrastructure vulnerability, and other variables, for the entire contiguous U.S. coastline. <https://coast.noaa.gov/slr/>
- ▶ **U.S. Climate Resilience Toolkit** – allows users to explore maps and graphs of historical and projected climate trends for any county in the contiguous United States. <https://toolkit.climate.gov>
- ▶ **Climate NA** – provides baseline and future climate projections data for all of North America. These are raw data files for those with GIS and data processing capabilities. They are also available on DataBasin, hosted by the Conservation Biology Institute. <https://sites.ualberta.ca/~ahamann/data.html>
- ▶ **MC 1&2 Dynamic Vegetation Model** –has output describing the future distribution of dominant types of vegetation across the U.S., as well as carbon storage and wildfire <https://climate.databasin.org/galleries/18202c2bb41f4b0ab9b6ddd3a4531ef8>
- ▶ **Template for Assessing Climate Change Impacts and Management Options (TACCIMO)** – connects climate change science with forest management and planning needs. <https://www.fs.usda.gov/ccrc/tools/taccimo>